

Amendments to the Drawings:

The modification of Fig. 1 serves to indicate the missing reference numeral 33 of the important stop disk.

Attachment: Replacement Sheet (1)

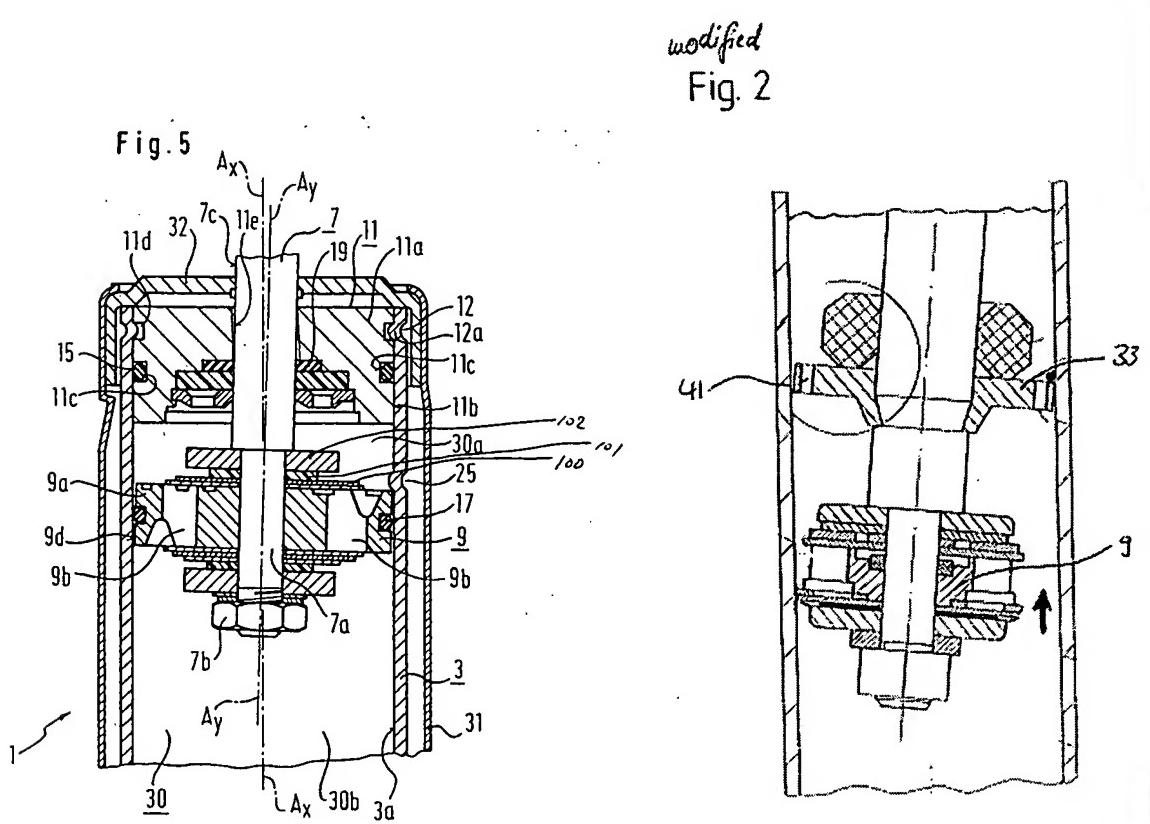
REMARKS/ARGUMENTS

This is responsive to the Office Action dated January 24, 2006 which has been carefully considered. In the Office Action, claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being obvious over US 5,454,455 (Kundmüller et al.) in view of US 5,862,893 (Volpel). Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being obvious over Kundmüller et al in view of Volpel and further in view of US 5,910,130 (McCandless). The rejections are respectfully traversed.

It is respectfully submitted that the Examiner has failed to make out a *prima facie* case of unpatentability and that a person of ordinary skill seeking to solve the problem faced by applicants would not make the combination proposed by the Examiner. 35 U.S.C. § 103 mandates that the invention as a whole must be considered in obviousness determinations. The invention as a whole embraces the structure, its properties, and the problems it solves. *In re Wright*, 6 U.S.P.Q.2d 1959, 1961 (Fed. Cir. 1988). Where an invention can only be arrived at by combining various components described in separate prior art references, there must be some reason for the combination: a teaching, a motivation, an incentive or a suggestion. *In re Laskowski*, 10 U.S.P.Q.2d 1397, 1398-99 (Fed. Cir. 1989). It is respectfully submitted that no such reason exists here. Each of the various references cited fails to disclose particular components of the claimed invention. There is no suggestion in the prior art to select the particular component from each of them, while excluding certain others, to arrive at the claimed invention. The U.S. Patent and Trademark Office's obviousness position is an exercise in hindsight, which is an impermissible basis for the rejection. See, *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (fed. Cir. 1988) ("one cannot use hindsight reconstruction to pick and chose among isolated disclosures in the prior art to deprecate the claimed invention"). The structure and functioning of the Kundmüller vibration damper has been discussed in detail in the request for reconsideration dated January 12, 2006 and is incorporated herein by reference.

Notably, the Examiner admits that "... Kundmüller et al. fail to teach the disc functioning as a stop disc and having an outer diameter greater than the piston, thereby resisting the projection before the piston contacts the projection." (see page 3 of the Office Action).

The disc indicated by applicants as disc 102 in the attached drawing Figure 5 of Kundmüller is only a support disc whose sole function is to support the two valve discs 100. In other words, it keeps the valve discs 100 of the specific Kundmüller piston structure in place so as to at least partially cover passage ways 9b. The disc 102 is not described by Kundmüller to have any other function, in fact, Kundmüller does not describe the disc 102 at all. However, these types of support discs are known in the art (see, for example, applicants request for reconsideration at page 4, first paragraph).



Kundmuller

Present Invention

Kundmüller et al. address and solve the possibility of the piston 9 and piston rod 7 being ejected from cylinder 3 in case of a fire. Kundmüller et al. teach (1) a cylinder 3 which is open at its top end; (2) a relatively short piston rod guiding and sealing unit 11 held in place by impression 12 located around the periphery of cylinder 3; (3) indentation 25 disposed at one side of cylinder 3 and piston 9 which, when hit by piston 9, will create a clamping force between piston 9 and cylinder 3 and between piston rod 7 and plug structure 11a of piston rod guiding and sealing unit 11 to prevent sudden expulsion of these structural components from the cylinder 3.

Support disc 102 plays no role whatsoever in the Kundmüller et al. safety feature and none is described by Kundmüller et al. Accordingly, there is no motivation or suggestion in Kundmüller et al. that their structure needs improvement. Even if one were to agree to the general proposition that all structures or devices can be improved, there is certainly no suggestion in Kundmüller et al. of what to do and where to start in terms of any perceived problem or any solution to such perceived problems. There is simply nothing in Kundmüller et al. that would indicate that its structure needs improvement and certainly not the specific improvement claimed by applicants' invention.

Nevertheless, after reading applicants' disclosure, the Examiner identified disc 102 as the problem of Kundmüller et al. and found the solution in Volpel.

However, it is respectfully submitted that Volpel does not teach or suggest either the problem of the Kundmüller et al. structure or the solution claimed by applicants. First, Volpel relates to a different type of damper, namely a fluid strut, i.e. "an actuator element for a gas cylinder for use in applications such as a lifter for an automobile hood or trunk lid or rear hedge". (Col. 7, lines 5-7). As such, the Volpel gas cylinder is not *open* but is *closed* at crimped portion 23. In other words, the Volpel cylinder is a closed, one-piece unitary structure that supports the piston rod guide

(col. 3, lines 25-29 and Figs. 1-4). As such, the closed cylinder of Volpel prevents the sudden ejection of the piston rod and/or piston rod guide from the cylinder. In addition, piston rod guide 19, is held by a relatively long fixing sleeve 25 which itself is held in place by encircling bead 27 (col. 3, lines 25-31) . Thus, due to the fixing sleeve 25, the Volpel piston rod is held in place and is not even capable of tilting.

Finally, Fig. 4 of Volpel shows a piston system 140 with an upper ceiling plate 142 which is a necessary and required part of the Volpel piston system. The ceiling plate 142 is located between piston 144 and fixing member 141 and has absolutely nothing to do with the safety features of the Volpel strut.

The safety features of the Volpel strut are three-fold: First, the main feature in Volpel which permits escape of pressure medium is shown in Figs. 1 and 2 and comprises a narrow portion 33 on piston rod 13 which, in case of a fire, forms an escape or bleed channel in piston rod gasket 21 (col. 3, lines 44-54). More specifically, Volpel describes a "sleeve 29 which acts as a stop" when it comes to rest against bead 27 (col. 3, lines 29-32). This sleeve 29 melts away to permit narrow portion 32 of piston 17 to form a passage channel 35 bridging piston rod gasket 21, thus permitting the pressurized gas to escape from the closed cylinder (col. 3, lines 44-53). Once the passage channel 35 is opened, and the pressurized gas has escaped, the movement of the piston rod will stop. The second and third safety feature in Volpel are comprised of pins 9a, 11a and [9b, 11b] which are made of material that melts before other solid components of the strut (Fig. 6, and col. 3, lines 6-17).

Thus, there is no suggestion or motivation ion either Kundmüller et al. or Volpel to make the combination proposed by the Examiner, namely, to provide a piston-cylinder assembly as claimed by applicants including, *inter alia*, a stop disc mounted on the piston rod adjacent to the piston and wherein the stop disc has an outer diameter greater than an outer diameter of the piston and wherein

wherein the stop disc has an outer diameter greater than an outer diameter of the piston and wherein the stop disc is dimensioned to rest against the at least one projection [in the cylinder] in the event of a fire so that the piston rod is tilted with respect to the central axis [of the cylinder].

The problem addressed by the instant invention, namely, to prevent sudden ejection of the piston rod and/or the piston rod guide from the pressurized cylinder of the vibration damper, does not exist in Volpel as Volpel is not a vibration damper but a fluid strut having a closed one-piece unitary cylinder that supports the piston rod guide (col. 3, lines 25-29 and Figs. 1-4).

To summarize, Volpel is directed to a gas filled strut which has:

1. A closed, unitary one-piece cylinder which does not permit the sudden ejection of the piston rod and/or piston rod guide;
2. Melt-away pins and brackets which melt before other solid components of the strut and thus prevent accidental ejection of the piston rod or piston rod guide from the strut.
3. A passageway formed between the piston and the piston rod gasket 21 permitting the gas to escape at elevated temperatures. This actually teaches away from using a stop disc and having the piston rod and piston tilt within the cylinder.

The Examiner appears to have ignored all of the above express teachings of Volpel and has taken ceiling plate 142 in Fig. 4 of Volpel, which is disposed below and held in place by fixing member 141 and which is a necessary and required part of the Volpel piston system. However this ceiling plate 142 has absolutely nothing to do with the safety features of the Volpel strut.

The Examiner has taken this ceiling plate 142 to replace the support disc 102 in Kundmüller, which likewise has nothing to do with any safety feature. In addition, Kundmüller discloses two of these well known support discs 101, 102, but the Examiner has arbitrarily chosen to replace the top one with the ceiling plate 142 of Volpel. However in Kundmüller et al. the ceiling

plate 142 of Volpel is no longer performing any of the functions it performed in Volpel. Rather, the ceiling plate of Volpel performs a function in Kundmüller et al. that is already performed by Kundmüller et al.'s piston assembly, including piston 9, ceiling ring 17 and indentation 25 including the tilting action as shown in Fig. 5 of Kundmüller et al. referred to by the Examiner.

This transformation may improve the Kundmüller et al. device -- but where is the motivation or suggestion to do what the Examiner has proposed? Why would a person of ordinary skill take the ceiling plate 142 of Volpel (which happens to have a diameter that is larger than that of the piston) from the piston assembly of Volpel's gas filled strut, that already has every possible safety feature except the one of the Kundmüller reference (and that of the present invention), and place it into the Kundmüller et al. vibration damper to perform a function that is neither suggested nor taught in either of the references but is taught only in applicants' invention. Absent applicants' own disclosure there is no cogent reason why one of ordinary skill would have been motivated to combine the disparate teachings of Kundmüller et al. and Volpel in the manner proposed by the Examiner. As the court in *Uniroyal* stated at 5 U.S.P.Q.2d 1438: "It is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention." *Uniroyal, Inc. v. Rodkin-Wiley Corp.*, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Finally, it is respectfully submitted that the Examiner's argument that "element 142 is interpreted as being functionally equivalent to a stop disc," is not well taken. First, the element 142 in Volpel is clearly described as a ceiling plate which is a necessary part of the Volpel piston system 140. Thus, there is no suggestion of a stop disc in Volpel. Second, Kundmüller et al. does not have a stop disc as in Kundmüller et al. The piston tilts by contacting indentation 25 and there is not suggestion or motivation in Kundmüller et al. to take the ceiling plate 142 of Volpel and incorporate that ceiling plate somehow into the Kundmüller et al. invention. Thus, the

Examiner has reconstructed the claimed invention based on applicants' own disclosure. This, however, does not amount to a *prima facie* case of obviousness. As pointed out above, "it is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention." *Uniroyal* at 5 U.S.P.Q.2d 1438.

Turning now to the rejection of claims 4 and 5, it is the Examiner's position that Mc Candless shows the claimed "elastomeric tension stop, or rubber bumper 37". This rejection is also traversed. As described in the specification, and shown, for example, in Fig. 2, the stop disc 33 can be part of an elastic tension stop 43. The elastic element, spring element 45, may be formed by an elastomer "which becomes pasty at a temperature level above the maximum operating temperature" and which allows stop disc 33 to rest against the beads 35 "even if the spring element 45 is already resting against the bottom surface of the piston rod guide 21". (Specification page 9,7 [0020]).

Thus, the piston and piston rod of the instant invention, in case of a fire, due to stop disc 33 and beads 35, would still tilt thus preventing the sudden expulsion of the piston, piston rod and piston rod guide from the cylinder 3.

The problem of fire safety and particularly the tilting of the piston and piston rod is not even mentioned or suggested in Mc Candless. The purpose of bumper 37 in Mc Candless is to cut-off fluid flow through the central hole 42 (col. 5, lines 37-46) as well as to soften the stop of piston assembly 15 against rebound cut-off piston 40. The cooperation of beads such as the claimed beads 35 and the stop disc 33 are not even suggested by Mc Candless. Disc stop 39 in Mc Candless is simply another example of the well-known support discs which are "rigidly connected to the piston body 17" (see col. 4, lines 52-53) or Kundmüller et al. discs 101 and 102 in the above drawing Fig. 5 of the Kundmüller et al.

Most importantly, the disc 39 in Mc Candless has a diameter that is smaller than that of the piston. Assuming, *arguendo*, that there were beads on one side of the cylinder, this would mean that the piston would hit against the beads as in Kundmüller et al. -- not against the stop disc 33 as in the claimed invention. Again, due to the absence of even a suggestion of a fire safety feature such as the claimed beads 35, the problem solved by the instant invention would not even arise in Mc Candless. Accordingly, it is respectfully submitted that just like the combination of Kundmüller et al. and Volpel, the Examiner has selected a particular component from Mc Candless, while excluding certain others, to arrive at the claimed invention -- an exercise in hindsight which is an impermissible basis for an obviousness rejection. See *In re Fine*, supra.

Early allowance of all pending claims is respectfully solicited.

It is believed that no fees or charges are required at this time in connection with the application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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